

Amendments to the Claims:

Please cancel without prejudice or disclaimer claims 1-20. The following listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1-20. (cancelled).

21. (Currently amended) An apparatus to generate a pulse width modulated voltage signal, said apparatus comprising:

a DC voltage source (102);

a first switching circuit (104) comprising a first switch and a second switch configured in a series circuit, said first switching circuit electrically coupled in parallel with said DC voltage source;

a second switching circuit (204) comprising a third switch and a fourth switch configured in a series circuit, said second switching circuit electrically coupled in parallel with said DC voltage source;

an output (108) comprising a first electrical junction coupling said first switch with said second switch and a second electrical junction coupling said third switch with said fourth switch;

said second switching circuit (204) operable configured to maintain said third switch in a conducting state while said fourth switch is maintained in a non-conducting state so as to establish a first polarity of an output signal;

said first switching circuit operable configured to switch said first switch and said second switch at a modulation frequency;

said first switching circuit ~~operable~~ configured to maintain said second switch in a conducting state while maintaining said first switch in a non-conducting state so as to establish a second polarity of said output signal, said second polarity being the reverse polarity of said first polarity; and

 said second switching circuit ~~operable~~ configured to switch said third switch and said fourth switch at said modulation frequency.

22. (original) The apparatus as described in claim 21 wherein said first switching circuit and said second switching circuit are configured as part of an application specific integrated circuit.

23. (currently amended) The apparatus as described in claim 21 wherein said first switching circuit ~~(104)~~ is ~~operable~~ configured to produce a positive pulse width modulated output signal during about one half cycle of a fundamental output period; and

 wherein said second switching circuit ~~(204)~~ is ~~operable~~ configured to produce a negative pulse width modulated output signal during the other half cycle of said fundamental output period.

24. (original) The apparatus as described in claim 21 and further comprising a motor electrically coupled to said output.

25. (currently amended) The apparatus as described in claim 21 and further comprising a microprocessor electrically coupled to said first switching circuit and to said

second switching circuit, said microprocessor ~~operable~~ configured to control said first switching circuit and said second switching circuit.

26. (currently amended) A method of generating a pulse width modulated voltage signal, said method comprising:

providing a DC voltage source (102);

electrically coupling said DC voltage source in parallel with a first switching circuit (104) comprising a first switch and a second switch configured in a series circuit;

electrically coupling said DC voltage source in parallel with a second switching circuit (204) comprising a third switch and a fourth switch configured in a series circuit;

establishing an output (108) comprising a first electrical junction coupling said first switch and said second switch and a second electrical junction coupling said third switch and said fourth switch;

maintaining said third switch in a conducting state while maintaining said fourth switch in a non-conducting state so as to establish a first polarity of an output signal;

switching said first switch and said second switch at a modulation frequency; then

maintaining said second switch in a conducting state while maintaining said first switch in a non-conducting state so as to establish a second polarity of said output signal, said second polarity being the reverse polarity of said first polarity;

switching said third switch and said fourth switch at said modulation frequency.

27. (original) The method as described in claim 26 and further comprising:

configuring said first switching circuit and said second switching circuit as part of an application specific integrated circuit.

28. (original) The method as described in claim 26 and further comprising:

utilizing said first switching circuit to produce a positive pulse width modulated output signal during about one half cycle of a fundamental output period; and

utilizing said second switching circuit to produce a negative pulse width modulated output signal during the other half cycle of said fundamental output period.

29. (original) The method as described in claim 26 and further comprising powering a motor with said output signal.

30. (original) The method as described in claim 26 and further comprising controlling said first switching circuit and said second switching circuit with a processor.

Appl. No. 09/937,680
Amdt. dated November 10, 2003
Reply to Office Action of May 9, 2003

PATENT

Amendments to the Drawings:

The attached 3 sheets of drawings include changes to Figs. 6-8. These sheets replace the current sheets for Figs. 6-8. Each figure in Figs. 6-8 has been labeled "Background". Annotated sheets showing the changes made to Figs. 6-8 are also enclosed.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes